Alberta Energy Regulator

Directive 011

Release date: March 31, 2015
Effective date: August 1, 2015
Replaces previous edition issued April 10, 2014

Licensee Liability Rating (LLR) Program: Updated Industry Parameters and Liability Costs

The Alberta Energy Regulator has approved this directive on March 31, 2015.

<original signed by>

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President and Chief Executive Officer

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1 What's New in This Edition

This updated directive replaces the version issued on April 10, 2014.

As provided for in *Directive 006: Licensee Liability Rating (LLR) Program and Licence Transfer Process*, the Alberta Energy Regulator (AER) reviews, updates, and publishes the industry parameters and the regional abandonment and reclamation costs used in the LLR calculation as required.

This update is being released as part of a three-year phase-in of updated parameters and costs. For more information, please see *Bulletin 2013-09: Licensee Liability Rating (LLR) Program Changes and Implementation Plan*, released March 12, 2013, and available on the AER's website at www.aer.ca.

2 Effective Dates

The LLR formula parameters and costs specified in this directive are effective August 1, 2015, and remain in effect until rescinded by the AER. The AER typically updates and publishes parameters and costs annually in April.

3 Industry Deemed Asset Parameters

The industry deemed asset parameters used in the LLR program are based on industry information and are as follows:

- The *industry netback* is a rolling three-year provincial industry average netback. The industry netback is $236.54 per cubic metre oil equivalent (m^3 OE).
- The *shrinkage factor* is a rolling three-year provincial industry average. The shrinkage factor is 14.17% (multiply gas production by 0.8583 to obtain sales gas volumes).
- The *m^3 OE conversion factor* is a rolling three-year provincial industry average. The m^3 OE conversion factor is 1.5776 10^3 m^3 gas/m^3 oil (divide sales gas volumes by 1.5776 to convert gas volumes into oil volumes).

4 Industry Deemed Liability Parameters

The regional well abandonment costs used in the LLR formula are based on information provided to the AER through an annual well abandonment cost review conducted by a third party. The facility abandonment cost and well and facility reclamation costs used in the LLR formula are based on the most recent cost assessment conducted by the AER.

As indicated in appendices 8 and 9 of *Directive 006*, the LLR program established separate maps for determining regional abandonment and regional reclamation costs.

5 Well Abandonment Cost Parameters

The abandonment liability for a well considers its geographic location based on the Regional Abandonment Cost Map, depth, downhole completion scenario, and where applicable, the number of events requiring abandonment, the costs to address groundwater protection, surface casing vent flows, and gas migration. The process for calculating a well's abandonment liability is detailed in appendix 6 of *Directive 006*.

6 Regional Well Abandonment Cost Tables

The basic abandonment cost of a well in each geographic area, by depth and downhole completion scenario, is as follows:

Area 1. Medicine Hat

Depth (m)	Empty not perforated	Empty perforated	Tubing only	Tubing & rods
0–1199	$12 800	$17 975	$36 384	$45 993
1200–1999	$12 800	$19 060	$41 790	$50 227
2000–2499	$12 800	$19 273	$62 606	$75 506
2500–2999	$12 800	$20 757	$67 950	$85 003
3000+	$12 800	$23 910	$87 240	$114 236

Area 2. Calgary/Edmonton

Depth (m)	Empty not perforated	Empty perforated	Tubing only	Tubing & rods
0–1199	$13 300	$18 476	$41 361	$50 455
1200–1999	$13 300	$19 562	$47 411	$56 505
2000–2499	$13 300	$19 741	$65 782	$78 105
2500–2999	$13 300	$21 194	$71 588	$88 642
3000+	$13 300	$24 646	$92 451	$119 446

Area 3. Drayton Valley/Grand Prairie

Depth (m)	Empty not perforated	Empty perforated	Tubing only	Tubing & rods
0–1199	$13 500	$18 776	$45 513	$54 608
1200–1999	$13 500	$19 862	$55 568	$60 658
2000–2499	$13 500	$22 041	$67 020	$79 343
2500–2999	$13 500	$24 244	$72 836	$89 880
3000+	$13 500	$27 975	$94 077	$121 072

Area 4. Lloydminster

Depth (m)	Empty not perforated	Empty perforated	Tubing only	Tubing & rods
0–1199	$12 800	$17 975	$36 037	$46 455
1200–1999	$12 800	$19 060	$41 790	$50 227
2000–2499	$12 800	$19 273	$62 606	$75 506
2500–2999	$12 800	$20 757	$67 950	$85 003
3000+	$12 800	$23 910	$87 240	$114 236

Area 5. Athabasca/Peace River

Depth (m)	Empty not perforated	Empty perforated	Tubing only	Tubing & rods
0–1199	$13 500	$18 807	$45 051	$53 426
1200–1999	$13 500	$19 776	$54 991	$60 081
2000–2499	$13 500	$20 641	$66 719	$79 043
2500–2999	$13 500	$22 194	$72 526	$89 579
3000+	$13 500	$25 675	$93 056	$120 772

Area 6. High Level

Depth (m)	Empty not perforated	Empty perforated	Tubing only	Tubing & rods
0–1199	$17 400	$26 172	$58 482	$65 814
1200–1999	$17 400	$26 641	$65 957	$72 493
2000–2499	$17 400	$27 510	$75 769	$89 069
2500–2999	$17 400	$28 278	$82 789	$102 453
3000+	$17 400	$28 744	$102 708	$134 177

Where applicable, the following parameters are to be applied:

- Groundwater protection cost $46 288
- Vent flow repair cost $169 309
- Gas migration cost $67 868
- Multiple event sequence factor 25%

7 Facility Abandonment Cost Parameter

The facility abandonment cost parameter for each well equivalent is $17 000.

8 Well and Facility Regional Reclamation Cost Map

The reclamation liability for a well or facility considers its geographic location based on the Regional Reclamation Cost Map and its well equivalent. The process for calculating a well or facility's reclamation liability is detailed in appendix 6 of *Directive 006*.

The cost per well or well equivalent in each of the seven regional reclamation cost areas is as follows:

- Grasslands Area East $16 500
- Grasslands Area West $25 250
- Parklands Area $27 250
- Foothills Area $29 250
- Alpine Area $42 125
- Western Boreal Area $34 000
- Boreal Area $23 875

A licensee is required under Part 1.1 of the *Oil and Gas Conservation Rules* to provide any security deposit amount resulting from the changes contained in this directive in accordance with AER monthly and transfer LLR assessment requirements.

The parameters and costs in this directive are used to calculate deemed assets and liabilities in accordance with formulas contained in *Directive 006*.

Inquiries regarding the requirements of this directive or any aspect of the LLR program should be directed by e-mail to LiabilityManagement@aer.ca or to the Liability Management Team's help line at 403-297-3113.